

Project Fish Resources Report

PROJECT NAME: Headwaters of the South Fork Trinity River Restoration Project

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TO: David Schmerge, Project Lead

FROM: William Brock, Fish Biologist/Program Manager

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Signature

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Date

A. Issue: Federally-listed Threatened Fish, Critical Habitat, USFS Sensitive Fish, Essential Fish Habitat (EFH), and Management Indicator Species (MIS) Fish occurring in the Trinity River Basin and the South Fork Trinity River

ESA Species Fish:

Southern Oregon/Northern California Coasts
(SONCC) Coho Salmon; Threatened

ESA Critical Habitat:

SONCC Coho Salmon Critical Habitat

Essential Fish Habitat:

Coho and Chinook Salmon

USFS Sensitive Species:

Upper Trinity River (UTR) Chinook Salmon-Fall Run
Klamath Mountain Province (KMP) Steelhead
Pacific Lamprey

Management Indicator Fishes:

Winter-Run Steelhead, Spring-Run Chinook
Salmon, Summer Steelhead, Rainbow Trout

All of the species and habitats listed above could potentially be affected by project activities.

Introduction

From the Scoping Letter: *“The Proposed Action includes (1) upgrading culverts to accommodate a 100-year flood, including associated bedload and debris; (2) constructing critical dips to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure; and (3) constructing rolling dips to hydrologically disconnect road approaches to the extent feasible”.*

Seventeen stream crossings along two USFS roads (27N22 and 27N23) will be reconstructed in a variety of ways. See Table 1 in the Project Scoping Letter. All 17 crossings involve replacing existing culverts with new culverts having substantial increases in diameter to accommodate significantly greater flows than what can presently be passed. Culvert inlets will be improved, and critical and rolling dips constructed with each one.

This action can be divided into the following logical Project Elements: 1) upgrading/replacing the culverts; and 2) constructing the critical and rolling dips (Analytical Process, 2004).

The Project Elements will be assessed for potential effects to the habitat indicators listed in Table 1. See the Analytical Process Guidance document (AP, 2004) for a description of each indicator. The potential effects to the Indicators by the Project Elements will be analyzed using three factors (proximity, probability, and magnitude) and if needed by the additional factors of distribution, frequency, duration, timing, and nature (AP 2004). Direct and indirect effects will be considered.

Background of Fishes and Habitats

1. SONCC Coho Salmon and Coho Salmon CH.

SONCC coho salmon (*Oncorhynchus kisutch*) were listed under the ESA as Threatened in 1997 (62 FR 24588; May 6, 1997) and Critical Habitat (CH) was designated in 1999 (64 FR 24049; May 5, 1999). Designated CH for SONCC coho salmon encompasses reaches of all rivers (including the Klamath River basin, estuarine areas, and tributaries) extending from the Mattole River in California to the Elk River in Oregon, inclusive. Coho salmon CH includes the entire mainstem Trinity River starting with the confluence with the Klamath River upstream 109 miles to the base of Lewiston Dam as well as most of the mainstem of the South Fork Trinity River and Hayfork Creek.

2. Essential Fish Habitat.

In addition to CH designations for SONCC coho salmon, Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Act (MSA) require heightened consideration of habitat for commercial fish species in resource management decisions, including EFH for SONCC coho salmon and UKT Rivers Chinook salmon. EFH is defined in section 3 of the MSA as “those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity.” National Marine Fisheries Service (NMFS) interprets EFH to include aquatic areas and their associated physical, chemical and biological properties used by fish that are necessary to support a sustainable fishery and the contribution of the managed species to a healthy ecosystem. The MSA and its implementing regulations at 50 CFR 600.92(j) require that before a federal agency may authorize, fund or carry out any action that may adversely affect EFH, it must consult with NMFS. The purpose of the consultation is to develop conservation recommendations that address reasonably foreseeable adverse effects to EFH. Freshwater EFH for Pacific salmonids includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically, accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers, and long-standing impassable natural barriers. Analysis of CH or any anadromous fish habitat will include concurrent analysis of EFH.

3. Forest Service Sensitive Species:

The list of Shasta-Trinity National Forest Trinity River Basin Sensitive fish species seen on page 1 of this report has been considered. The determination criteria is the potential for project activities to cause a trend toward federal listing (under the Endangered Species Act). Activities that may affect a species or its habitat, but are not likely to cause significant disruption to reproductive success on the part of individuals or patterns of reproductive success on the part of larger populations, will not affect the demographic patterns of the species and will not cause a trend toward federal listing. Although individuals may be affected, federal listing is considered at a population level. The three Sensitive species found in this report all have the same range as SONCC coho salmon Critical Habitat, except for possibly Pacific lamprey which have the ability to migrate further upstream than anadromous salmonids in certain stream bed configurations and situations.

4. Management Indicator Assemblages

From the STNF’s Land and Resource Management Plan (1995): “Fish species have been grouped into specific assemblages to simplify tracking the effects of Forest Service management activities on fish habitats. Three assemblages have been established. These are: (1) Fish Habitat – Anadromous Assemblage, (2) Fish Habitat – Inland Cold Water Assemblage, and (3) Fish Habitat – Inland Warm water Assemblage. Winter-run Steelhead,

spring-run Chinook salmon and summer steelhead were selected as management indicators for the anadromous fish assemblage. The rainbow trout was selected for the inland cold water fish assemblage....” The Project’s broad perimeter includes assemblages numbered one and two. As stated elsewhere, the anadromous fishes have the same migration range as that indicated for SONCC coho salmon Critical Habitat. The rainbow trout, however, could conceivably be in the area of one or more of the culvert location sites without surveys being conducted to confirm their presence or absence. This report will assume that their presence is therefore possible.

B. Compliance with law, regulation, policy, and the Forest Plan

This project is in compliance with all applicable laws, regulations and policies, including: the National Environmental Policy Act; federal Endangered Species Act; Magnuson-Stevens Act for Essential Fish Habitat Determination; Forest Service Region 5 Sensitive Species Program; and all aspects of the Shasta-Trinity National Forest Land and Resource Management Plan.

Analysis and Determination Summary

Please Note: The project map found in the Headwaters Legacy Sediment Site Report also indicates the extent of SONCC coho salmon CH. SONCC coho salmon CH is generously represented on that map and is technically more indicative of all of the other fish ranges or fish habitats listed in this report. The Forest identifies SONCC coho salmon CH as being the same as for steelhead, the fish species normally exhibiting the widest anadromous fish ranges during spawning migrations.

Project Element 1 – Upgrading the culverts.

The culverts will be replaced following the detailed instructions and guidance of the Stream Crossing Upgrade Guide for projects within the Trinity Basin of the Forest. Doing so will ensure that any possible short-term duration sedimentation generated by the replacement activities will be localized with minimal downstream transport.

The locations of the 17 culvert upgrade or replacement sites along USFS roads 27N22 and 27N23 are more than one mile away from the closest extent of SONCC coho salmon Critical Habitat (CH), EFH, USFS Sensitive fish species and/or habitat except for possibly Pacific Lamprey, and all but one MIS fish species and/or habitat (rainbow trout). The culvert replacement sites are therefore not in close enough proximity to the nearest anadromous fish or fish habitats to conceivably do any direct or even indirect harm based on the magnitude of the culvert replacement work and the distances involved except possibly for Pacific lamprey. There

is effectively zero probability that any site-specific work can directly or indirectly affect any of the other anadromous fishes or habitats listed in this report.

It is not definitively known if resident rainbow trout, one of the MIS fish species, may reside more closely to one or more of the specific culvert replacement sites. Field survey work performed in 1973 indicates that there are reaches of the affected stream, Mule Gulch that possessed rainbow trout back then, 46 years ago. If the trout are present today, there should be no harm or mortality caused by the culvert replacement project again because of the direction found in the Stream Crossing Upgrade Guide. Additionally, other Project-related Best Management Practices (BMPs) and Resource Protection Measures (RPMs) will become part of the project performance package which will further decrease any probability of Project-related sedimentation from commencing. This is confirmed in the Project Hydrology Report (2019) under the 'Direct and Indirect' section of the Report.

What would the benefits be, conversely, by accomplishing the goals of this proposed action? The Table found in the Project Scoping Letter which lists each of the 17 culvert sites slated for replacement, are presented in Table 1 of the Headwaters Legacy Sediment Site Plan report in a format that includes the estimate of the cubic yards of fill volume for each location associated with each site. The estimate of fill volume for all 17 culvert locations combined is over 51,000 cubic yards, all of it fine grained material detrimental to aquatic organisms and their habitats. It is obvious that the beneficial effects of this proposed action swamp any possible minor impact, if any, that culvert replacement implementation would present.

Project Element 2 – Construction of Rolling and Critical Dips

Refer to the figures in the Stream Crossing Upgrade Guide for illustrations regarding typical placement for these two features to be constructed on a typical USFS road, including the positioning of them with the 17 culvert replacement sites for this Project. Such construction would virtually contribute zero quantities of sediment to any nearby stream courses directly, and very small quantities of sediment to adjacent streams indirectly during the first few years after Project completion. Similar to the figures shown above for cubic yards of sedimentation prevented from occurring due to the culvert replacement portion of this project, the installation of these rolling or critical dips can help prevent catastrophic stream diversions from occurring atop road surfaces. That response can lead to diversions down hillslopes not suitable for streamflow, causing massive slope failures or new, deep gullies and new channel formation.

Table 1 below summarizes the potential effects to Habitat Indicators when combining the two Project Elements of this Proposed Action. The effects will all be neutral for the short term installations, and net positive for sediment-related issues once completed.

Table 1. Effects to Habitat Indicators by the Combined Project
Elements of the Proposed Action

Indicator	Headwaters So. Fk. Trinity Restoration Project
Temperature	0
Suspended Sediment / Turbidity	0+
Chemical Contamination / Nutrients	0
Physical Barriers	0
Substrates / Embeddedness	0+
Large Woody Debris	0
Pool Frequency and Quality	0
Large Pools	0
Off-channel Habitat	0
Refugia	0
Average Wetted Width / Maximum Depth pools	0
Streambank Condition	0
Floodplain Connectivity	0
Peak/Base Flows	0
Drainage Network	0
Road Density/Location	0
Disturbance History	0
Riparian Reserves	0

Note: '0' = Neutral or No Effect. '+' = Positive Effect.

SUMMARY

For the reasons stated above and taken together, the Project will have no effect to coho salmon or coho salmon critical habitat.

There will be no direct or indirect effects to the fish or fish habitats listed in this report except for possibly MIS rainbow trout and conceivably Pacific lamprey. A trend toward ESA listing or loss of viability of the three Forest Service Sensitive Species listed on the USFS Regional Sensitive Species List for the Shasta Trinity National Forest and in this document is not anticipated and viability is not at risk. The Project does not adversely modify their habitat in the short or long term. Individual anadromous salmonids are not expected to be adversely impacted by the Project. The Project will have zero effect to the three anadromous MIS fish species that could conceivably occur downstream from the proposed Project area. The project will have no effect on salmon EFH. Implementation of the Project will not prevent attainment of the Aquatic Conservation Strategy Objectives (NWFP ROD 1994) based on the evidence presented above. Cumulative effects are discussed in the Project Hydrology Report (2019) which calculate low disturbance level rankings out at least five years.

References

USDA Forest Service, 2019. Headwaters of the South Fork Trinity Restoration Project Hydrology Report.

USDA Forest Service, 2018. Stream Crossing Upgrade Guide for NEPA Projects on the West Side of the Shasta-Trinity National Forest.

USDA Forest Service 2018. Legacy Sediment Site Report for the Headwaters – South Fork Trinity River Drainage

USDA Forest Service, US Department of Commerce, US Department of the Interior-USFWS and BLM (USDA-USDC-USDI). 2004. Analytical Process for Developing Biological Assessments for Federal Actions Affecting Fish within the Northwest Forest Plan Area.

USDA Forest Service. 1995. Shasta-Trinity National Forests Land and Resource Management Plan. Shasta-Trinity National Forests, Redding CA.

USDA Forest Service; USDI Bureau of Land Management. 1994. Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl; Standards and Guidelines for Management of Habitat for Late-successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl.